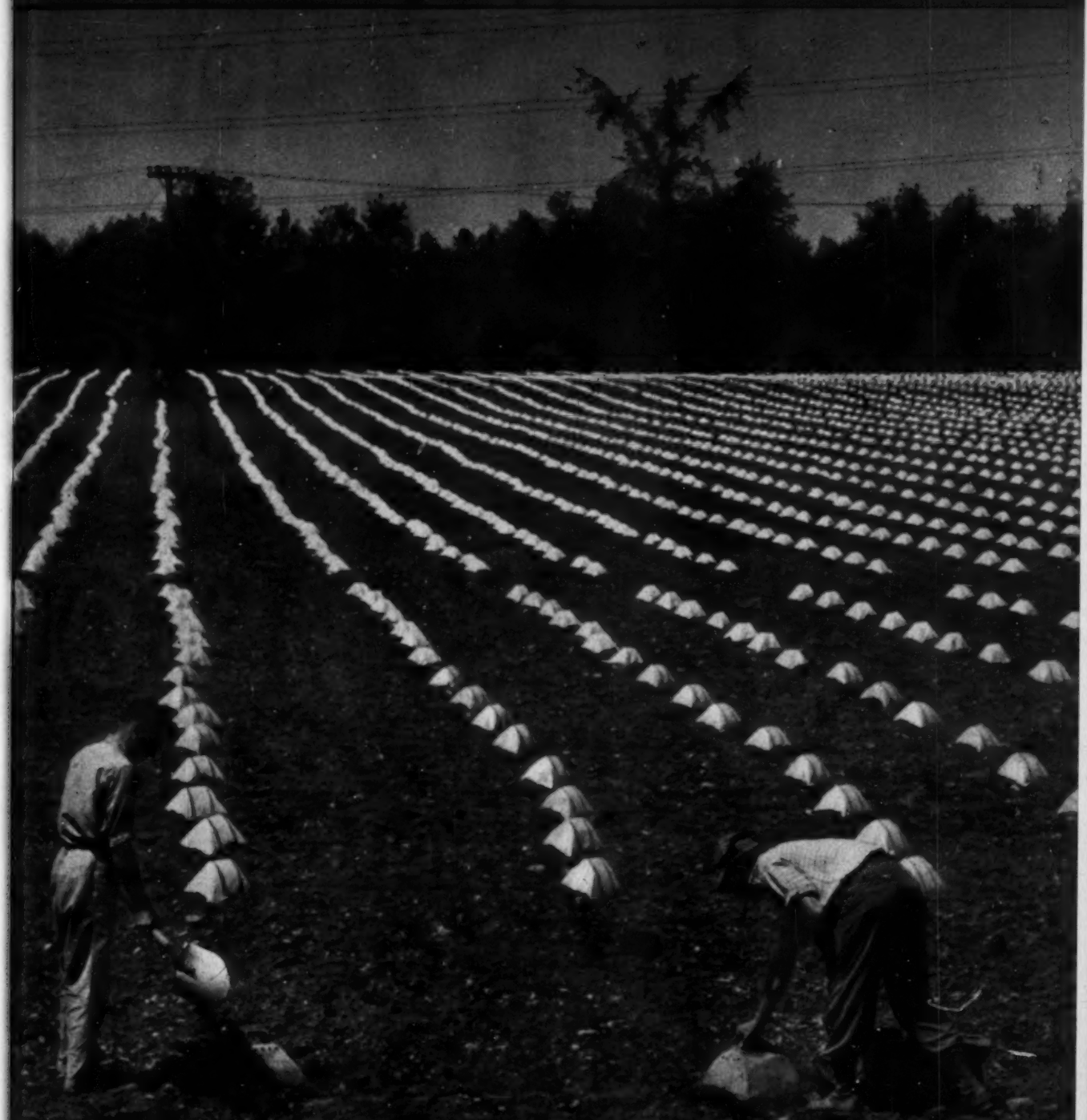
American
Vegetable Grower
MAY • 1954



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VEGETABLE GROWER

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(Commercial Vegetable Grower)

Vol. 2 MAY, 1954 No. 5

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AMERICAN VEGETABLE GROWER

Published Monthly by

AMERICAN FRUIT GROWER PUBLISHING CO.
37841 Euclid Ave.
Willoughby, Ohio

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MAY, 1954

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LETTERS TO THE EDITOR

Acreage Allotments

Dear Editor:

I have read with interest the pros and cons of acreage allotments, and I disagree that they put the farmer in a straight jacket. Any business that is run properly adjusts its production to the demand for its products. Acreage allotment is an orderly way of adjusting the production of farm products to the demand of the consumer. From a farmer's point of view, I think this was proven by the recent Wheat Referendum.

Without any programs at all, agriculture, under present conditions, can run into serious trouble which could wreck the economy of the entire country.

An example of this is the plight of the potato farmer in Maine. The assessed valuation of the potato industry in that state is $135 million. The estimated cash loss for the 1953 crop is $65 million. I have heard from several sources that many of the potato farmers from the potato producing area of Maine can't afford to feed their families properly. This situation puts people out of work in parts of the country that produce different items that these Maine farmers are accustomed to buying. This creates an unemployment problem.

Wapping, Conn. Moses Maskel

Likes Magazine

Dear Editor:

I am enclosing my check for $2 for a three-year subscription to AMERICAN VEGETABLE GROWER.

I happened to pick up a copy, and after reading it, I realized that it is the magazine I have been looking for. I take practically all the other farm magazines, but I believe that AMERICAN VEGETABLE GROWER has more practical advice in it than all the others.

I am looking forward to my first issue.

Coatesville, Pa. Otis D. Hanna

Promoting Vegetables at County Fairs

Dear Editor:

I have been interested in the various articles you have published on marketing and promoting vegetables.

Just how can we help sell more homegrown vegetables? This is the big question local growers would like to know. And along with this question, what are local vegetable growers doing to acquaint the consumer with the health values of vegetables?

As superintendent of Lake County, Illinois, horticultural exhibits, it has been my privilege to talk to thousands of visitors at our annual county fair.

"Where can I get some of that nice sweet corn?"

"The early potatoes at the stores don't look like those."

"I never knew that there were so many varieties of vegetables grown, let alone near Chicago."

These are some of the comments I overheard people make at a vegetable exhibit, a few years ago. A background of an attractive farm scene helped promote 53 varieties of top-quality vegetables which were kept fresh by spraying with cold water by one of the members who also answered the many questions of viewers.

In Lake County we are proud of our vegetable displays put up by our 414 members. Just think of entering a room with 57 different vegetable displays!

To grow vegetables that will take a prize at the county fair requires thought and care. Study the premium lists and find out the best varieties suited to your area. It is surprising how quickly various varieties are replaced by newer and better ones. I myself test beans, tomatoes, potatoes, and flowers to show at the fair so that new home owners can see just what is grown locally.

Another way to advertise vegetables is to hold demonstrations. Anybody who has had the privilege of seeing the National Junior Vegetable Growers vegetable demonstrations at their national conventions would not

Margaret Scheffner and Leonard Schmitt of We Willing Workers 4-H Club, Libertyville, Lake County, Illinois, at NJVGA convention in Tulsa, stand at their vegetable presentation booth.

doubt the value of these. Last year there were 29 demonstrations in production, 10 in marketing, and 16 in preparation of vegetables.

When exhibiting at county fairs, let's show people we are proud of the fine vegetables we are growing and how they can get the greatest value for their money.

Mundelein, Ill. W. R. Laechelt

Chayotes

Dear Editor:

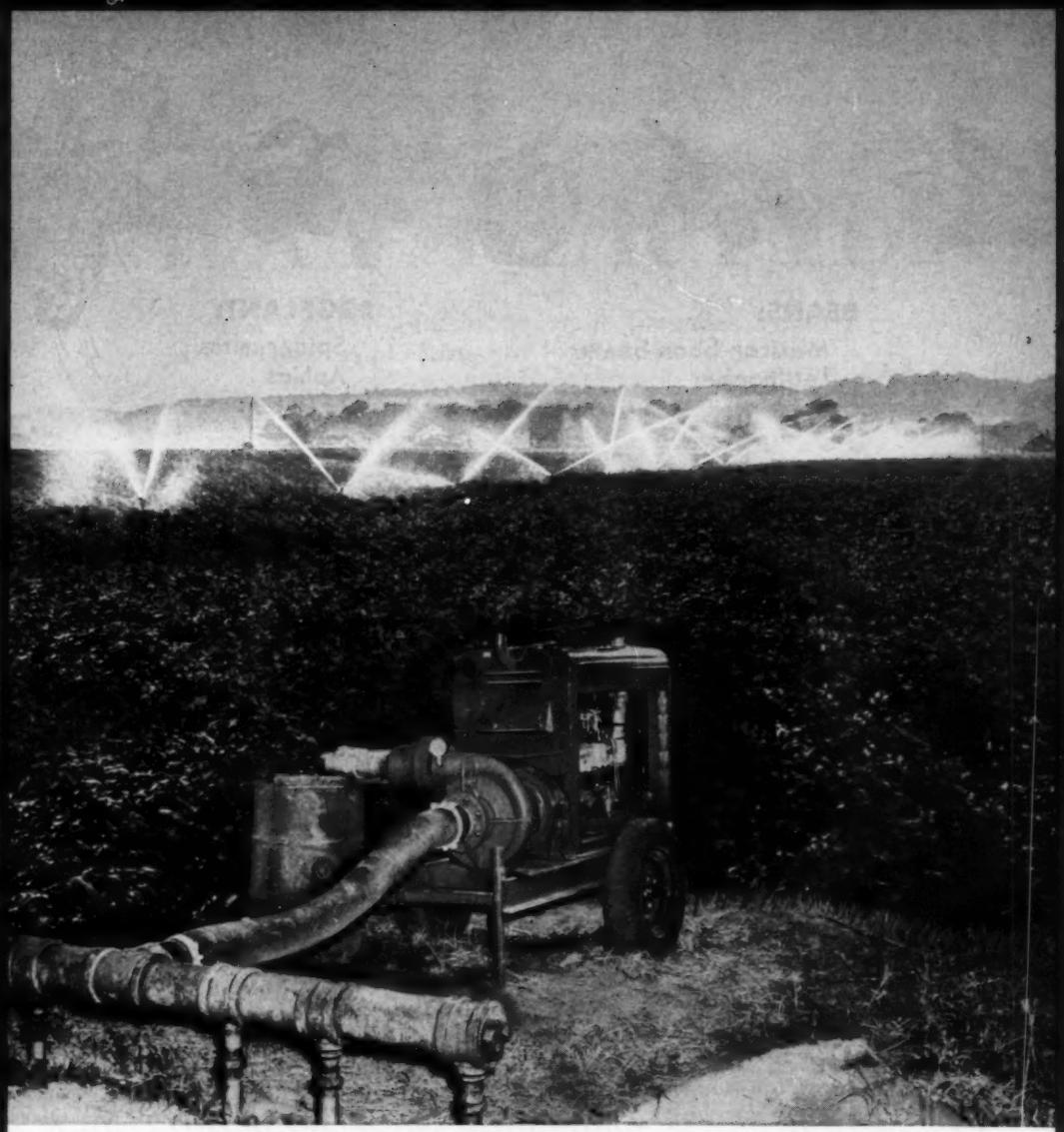
I received my first copy of AMERICAN VEGETABLE GROWER and was quite pleased with it. The article on nematodes (February issue) and their control alone is worth the subscription.

However, what prompted me to write you was the little item in the February issue entitled, "New Vegetable," by F. Hal Higgins. I would like to know what he means by a "new" vegetable? I am 50 years old, raised on a farm in southern California, and I'm still a farmer. In my early childhood, my family and many other farmers grew chayotes. Also, they were sold at roadside stands around Los Angeles long before World War II.

It may be, of course, that people from the eastern part of the country who have recently moved to California have not heard of chayotes before this time.

San Bernardino, Calif. Martin V. Dillon

As a historical note, chayotes are the fruit of a West Indian annual vine which are eaten as a vegetable.—Ed.



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When to SPRAY FERTILIZE

Higher quality cantaloupes and tomatoes result from foliar applications of boron and magnesium

By F. C. STARK
University of Maryland

TOMATO and cantaloupe growers on the eastern shore of Maryland have learned from experience that applying regular fungicide and insecticide sprays is paying dividends. These same growers are learning now that these dividends can be considerably increased by adding a few cents' worth of magnesium sulfate and borax to the spray tank twice during the season.

It all started in 1947. Controlled mineral nutrition studies with cantaloupes at the Maryland Agricultural Experiment Station at that time showed that when the level of magnesium or borax supplied to the plant was very low, the melons lacked sweetness. The deficiency symptom of low magnesium levels was very similar to the symptom attributed to downy mildew.

Field tests involving soil and foliar applications of these and many other minerals were inaugurated in 1949. That season turned out to be very dry —only six inches of rainfall were measured at the University Vegetable Research Farm at Salisbury, Md., where the tests were conducted, from the time of planting to the beginning of harvesting the melons.

The soil was so dry that plants receiving fertilizer only from the soil were unable to obtain a sufficient amount to prevent nutrient deficiency symptoms. Downy mildew (or magnesium deficiency) symptoms appeared in all plots except those that had been sprayed with magnesium sulfate. In no case was downy mildew sporulation observed, however, and the problem appeared to be one of supplying ample quantities of magnesium to the plants. The combination of magnesium sulfate and borax, it was reasoned, should show the most benefit, and the 1949 tests actually did prove the combination to be beneficial.

Subsequent tests with foliar feeding have shown a consistent beneficial response from this combination of materials. No other material or combination of materials has been as effective. The comparison of this treatment with the check over a three-year period is shown in Table 1 on page 21.

Tomatoes which have been sprayed with magnesium sulfate and borax are examined by the author.

In most years the treatment has resulted in about a 15 per cent increase in the number of melons having greater than eight per cent soluble solids. (*The soluble solids consist largely of sugars and are used as a measure of sweetness. The Maryland Cantaloupe Law requires that crated melons test at least eight per cent soluble solids.*)

The recommendation is to add four pounds magnesium sulfate (Epsom salts) and two pounds borax to 100 gallons of spray. The salts can be mixed with fixed coppers, zineb, or Manzate. They should not be mixed with nabam. Studies in 1953 indicate that the ideal time of application is when the vines start to run and again when the crown set fruits are between one and two inches in diameter. The fungicide also should be applied according to schedule at other periods during the growth of the crop.

Because of the favorable response to foliar feeding of cantaloupes, similar work was undertaken with tomatoes in 1950. The same nutrient spray proved to be the only effective treatment. The response in this crop was an average increase in yield from 1950 to 1954 of 21.5 per cent of U. S. No. 1 grade fruit. With the increase in the higher quality grade, a very marked increase in monetary return can be expected.

Data in Table 2 show the comparative value of adding the magnesium sulfate and borax to the fungicide, as compared with the fungicide alone. It should be noted that the fungicide was applied at weekly intervals in all tests, and the cost of applying the nutrient sprays is considered to be a part of the disease control program.

Recommendations are to spray regularly with fungicides for disease con-

(Continued on page 21)

OUR COVER PHOTOGRAPH

Thousands of acres of vegetables are covered with "hotents" or "hotcaps." In the Imperial Valley of California it is cantaloupes. Along the South Atlantic it may be summer squash or tomatoes. In the Great Lakes area tomatoes and cucumbers are frequently covered. In New York state transplanted melons are protected from frost, as shown on our cover illustration by Eleanor Gilman.

Particular care must be taken to prevent overheating under the tents when temperatures rise during bright sunny days. A small tear on the leeward side, gradually increased as the plant develops, is good insurance.

Strip cropping helps to prevent soil erosion but does not in itself improve soil structure. Good soil management practices are a necessary supplement. Photograph by A. F. Gustafson.

are you being robbed by UNSTABLE SOIL?

Good soil management practices can stop that theft and at the same time cut tillage costs and increase crop yields

By PAUL J. ZWERMAN

Cornell University

THE PICTURE of vegetable crop production has changed radically in the past 30 years. Prior to and during the early twenties, vegetable producing areas were of the small market garden type; they were concentrated close to the larger cities. Horses were used to haul the produce into the cities, and usually stable manure was abundant and readily available to all vegetable growers. Each grower produced enough hay to feed his own horses. Heavy applications of stable manure were utilized, and land was rather frequently returned to timothy hay. High return of organic matter to the soil characterized this system of management.

Today, the vegetable grower finds himself in an economic position where he treats his land far differently. Abundant stable manure is no longer available. There is no market for timothy hay. In order to cut unit costs of production heavy machinery has to be used. Tractors weighing three and one-half tons have replaced the individual horse weighing less than one ton.

What has this change in practice done to the soil? Many observant growers have experienced the answer to this question. Those who till the heavier soils know that these soils are now more difficult to handle. They are very sticky when wet. They become cloddy and hard when dry. Tillage is more difficult. Seedbeds have to be "pulverized" rather than prepared. Crusts on these heavy soils will form even under a light rain. Sandy soils, on the other hand, while still easily plowed, seem to remain wet longer after rains and irrigation. Another observation is that dry periods seem to be getting more frequent or intense.

Effect of heavy machinery on wet soils. Wheel rut was caused by tractor traffic. Photo by author.

A disc has this effect on unstable soil structure. Photograph by the author.

To get to the bottom of these difficulties it is necessary to look into the soil. We must see its structure as we would the structure or construction of a building. The soil is porous. Individual bundles or aggregates of soil are the cause of this porosity. These soil aggregates may range in size from the head of a pin to units as large as the end of a man's thumb. Within the individual aggregates sand, silt, and clay unite with soil organic matter and soil

moisture to form the structure that characterizes the particular aggregate. Aggregates that do not slake or fall apart in water are said to be water stable.

It is these water-stable aggregates that give soils their good tilth. Because of this good tilth, water relations for vegetable crops are generally improved. Water penetration into this soil either from irrigation or rainfall takes place more quickly.

Once the water has entered such a soil that has stable soil structure, it is likely to be more usable to plants. This is true because the individual soil aggregates act as storage units for water. There is good porosity for flow of water downward into the soil and for free air movement, but there is poor contact for capillary movement of soil moisture upward between the soil aggregates, thus wasteful evaporation is prevented. This soil tends to conserve water for the vegetable crop.

Air and water relations are not the only factors that are improved with improved soil structure. The energy of sunlight is conserved to warm the soil. Because cooling evaporation cannot take place, early spring temperatures of the soil are likely to be more favorable.

The situation described above is in direct contrast to the unstable soil structure where porosity is low and moisture penetration is likely to be poor. Moisture storage in the surface layers will be poor because capillary flow of usable soil moisture will take place to the surface. This loss of moisture to the surface causes low temperatures in the early spring and results in poor storage of water for the vegetable crops. Later in the season, crusting is likely to prevent moisture penetration. Summer rains will runoff rather than infilter into the soil.

On sandy soils excessive tractor wheel traffic has been found to generate traffic soles or plow pans in the subsoil. These layers do slow down water movement.

Does this stable and unstable soil structure really make a difference in vegetable crop yields? A. W. McAllister, project leader in horticultural research for the Birds Eye Division of General Foods Corporation, recently reported on yields before a soil conservation meeting held in New York state.

He stated that sweet corn yields on stable soil structure on the company's experimental farm averaged one and one-half tons per acre more than sweet corn in the surrounding factory area. Pea yields were 2,400 pounds as compared to 1,750 pounds for the factory area. Lima bean yields were 1,000 pounds higher.

It was estimated that tillage costs were $3 per acre less on the stable soil than on the surrounding soil areas.

Under modern conditions of farming, what can be done to maintain and if possible improve soil structure? The soil must be protected from erosion. Many vegetable growers have found that cropland terraces meet their needs more readily than any other form of runoff control. Contour tillage and strip cropping also are useful. Terracing or surface runoff control in itself will not improve soil structure. This is true because it only prevents the soil from being washed away.

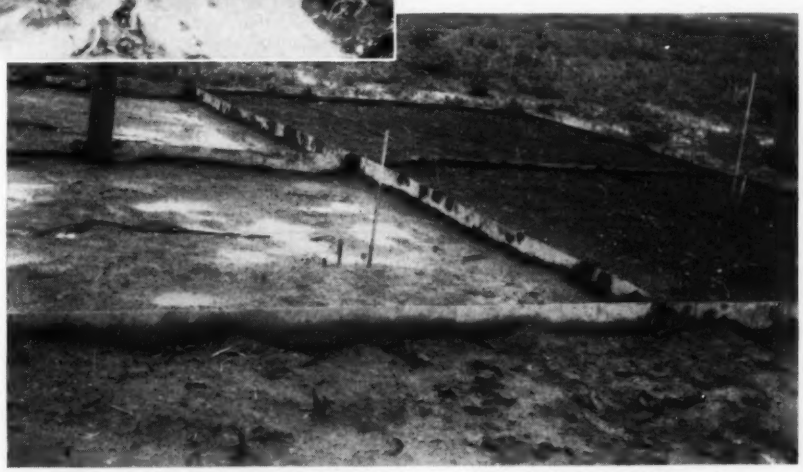
The key to improving soil structure is to manipulate those factors which bring about a building up and a tearing down of the soil structure so that there is a net gain instead of a net loss. One of the first considerations should be the addition of organic matter.

The lowest cost method of producing organic matter is by the growing of a cover crop in the vegetable rotation. Not only do cover crop root systems and tops add organic matter to the soil, but the cover crop plant itself prevents destructive freezing and thawing and protects the soil surface against the beating action of rain.

Surface water control and the use of cover crops are low cost practical methods of maintaining soil structure that are within the reach of every vegetable crop grower. Should a grower be seriously interested in attempting to produce his crop on soils that have more nearly ideal soil structure, he should consider the possibility of increasing the size of his enterprise to introduce a crop rotation and livestock

(Continued on page 15)

Severe erosion in cauliflower field, a result of poor moisture penetration. Photo by Harry Korr.



Poor moisture penetration on unstable soil structure is graphically shown at left as contrasted with good moisture penetration on stable soil structure. Photograph by the author.

STATE NEWS

- **Kern County Reduces Potato Acreage 27 Per Cent**
- **Florida Tries Out Second Mobile Tomato Harvester**

CALIFORNIA—United States potato production should be cut! This was the statement of USDA spokesman, Ken Schaible, at the 10th annual convention of the Kern County Potato Growers Association recently held at Bakersfield.

Failure of the nation's potato growers to reduce their 1954 plantings will lead to additional surpluses with more headaches for both farmers and government. Mr. Schaible said that the USDA is recommending a national acreage reduction of 30 per cent from the 1953 acreage, but indications are that only an 11 per cent reduction is apparent at the present time.

Trend of the times: U. S. standards for watermelons have been revised, to make them applicable to the recently developed small ice-box type or midget watermelon. The small melons have already appeared on the New York market this spring, attractively packed by Florida growers in cardboard cartons—9, 12, 16, and 18 to the carton.

Kern County, one of the largest producers of early potatoes, has reduced its 1954 plantings to 38,671 acres, compared to a 1953 acreage of 52,993 acres—a reduction of 27 per cent. Mr. Schaible expressed hopes that the rest of the nation would do likewise.

Advance indications of planting intentions of four other major producing areas are, according to Mr. Schaible: Maine, "whose 60 million bushels is out of line—too high." Idaho expects to plant four per cent and Long Island one per cent over their high 1953 plantings. North Dakota production will be "much too high." Mr. Schaible said that he hopes these and other areas can be persuaded to reconsider their present plans.

Despite the prospects for another year of surpluses, the USDA spokesman indicated there are "some optimistic overtones" for the 1954 outlook. These include improved retail market expectations, acreage reduction small as it is, and diversion of the 1953 surplus into starches and stock feed. Kern County potato growers were praised for their activity in developing good retail market reception by doing an excellent job of packing and merchandising as well as diverting their surpluses into starches and livestock feed.

Other speakers at the convention included R. C. Neill, traffic manager, Sunkist Growers, Inc., who said that there had been an "accumulative agricultural shipping rate increase of 66 per cent since 1946." He warned about other rate increases which are now being considered.

Echoing his words, Palmer Mendelson, San Francisco market analyst, warned that the U. S. railroads and the Interstate Commerce Commission should consider a recent decision of the National Canadian Transportation Commission who refused a rate increase request with the statement that post-war rate increases have helped cut rail traffic to a point of diminishing returns and are now pricing Canada's railroads and employees out of business and out of jobs.

William M. Case, executive director of the National Potato Council, spoke on the need for continual improvement in marketing and packaging potatoes. He cited the drop in per capita consumption of potatoes since the early 30's. A "concentrated educational program to revive the potato as a basic part of the family menu" will be necessary if the potato is to maintain its past position in our diet.—*David N. Wright, Farm Advisor, Bakersfield.*

FLORIDA—Sweet corn growers will welcome this news. The Fish and Wild Life Service has been conducting experiments in the Belle Glade area on the repelling of blackbirds from sweet corn by the use of the rope-firecracker method. The experiments are not yet completed, but the method appears to give growers an improved way of coping with the blackbird problem.

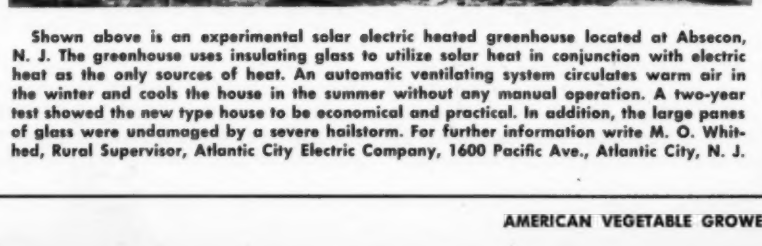
The second mobile or mechanical method to harvest and handle mature green tomatoes was tried in the Homestead area this season. Field harvesters for the mature green tomatoes appear to be closer to practical application after two outstanding demonstrations.—*George Talbott, FF&VA, Orlando.*

GEORGIA—Managers of the state's 16 big markets rolled out the red carpets for the managers of the major vegetable markets of eastern U. S. as they assembled for their eighth annual convention, March 24—26, at Atlanta.

There were many highlights at the three-day meeting, one of which was the welcome of the managers extended by each of the southern commissioners of agriculture. The session was led off by Georgia's veteran commissioner, Tom Linder, who was followed by L. H. Lewis, director, Florida State Farmers Markets; L. Y. Ballentine, North Carolina; J. Roy Jones, South Carolina; S. W. Box, manager, Farmers Central Market, Jackson, Miss.; Dave Pearce, Louisiana; John Christenson, Connecticut; J. B. McLaughlin, West Virginia; Taylor Grizzard, Virginia; and John Curry, Alabama.

R. F. Sams, Sam's Truck Farm, Clarkston, is heading up a committee to organize a Georgia Vegetable Growers Association. L. E. Farmer, extension marketing specialist, was appointed acting secretary. Preliminary plans to organize were drawn up at the Produce Market Managers' convention in Atlanta in March. There are no organized grower groups in Georgia at present. —Raymond Sheldrake, Jr., Asst. Ext. Hort., Athens.

The many problems of market management were discussed. Each manager had a chance to air the operating problems of his market and procure the benefit of the methods of solution to those problems that had been developed by other market managers. The 25,300 licensed wholesale dealers in the U. S. handle a produce business estimated at $4 billion at the producing level and $7 billion at the consuming level, as estimated by the USDA.



Shown above is an experimental solar electric heated greenhouse located at Absecon, N. J. The greenhouse uses insulating glass to utilize solar heat in conjunction with electric heat as the only sources of heat. An automatic ventilating system circulates warm air in the winter and cools the house in the summer without any manual operation. A two-year test showed the new type house to be economical and practical. In addition, the large panes of glass were undamaged by a severe hailstorm. For further information write M. O. Whithed, Rural Supervisor, Atlantic City Electric Company, 1600 Pacific Ave., Atlantic City, N. J.

A new feature of the managers' convention was the election of a Market Manager of the Year. The Oscar this year went to Don Evans, manager of the Dade County Growers Co-operative, Miami, Fla.

The managers had with them the first time this year the managers of the new markets in St. Louis and Houston, Texas. The convention was also attended by managers of the new Toronto market which is being whipped into shape for opening in June, as well as a delegation from Puerto Rico who are studying our methods.

A. L. Hogan, St. Paul, Minn., was elected president for the coming year and E. O. Heenan, Minneapolis, secretary-treasurer. The 1955 convention will be held in Toronto, Ontario.—*Russell Swiler.*

Arthur H. Dean (right), former U. S. negotiator in the Korean peace talks, and Dean William I. Myers of the College of Agriculture at Cornell University, Ithaca, N. Y., inspect a Trexler potato seed cutter (made by Albert E. Trexler, Lenhartsville, Pa.) during Cornell's 43rd Farm and Home Week, March 22-26. Exhibit emphasized a sanitation program both in use of the machine and of ring-rot free seed. Mr. Dean was one of the featured speakers, sharing the spotlight with Secretary of Agriculture Ezra Taft Benson.

NEW YORK—The Suffolk County Farm Bureau Potato Committee will investigate the possibility of a sectional potato marketing agreement to keep low-grade potatoes off the market, at a conference to be held at the Henry Perkins Hotel, Riverhead, L. I., on May 6. Invited to confer with the committee are: Dr. M. C. Bond, extension potato marketing specialist of Cornell; Dr. Floyd Hedlund, of the USDA; William Case, executive director, National Potato Council; and Frank Hussey, president, Maine Potato Growers Co-operative.

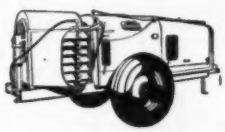
In 1950, Long Island potato growers voted down a proposed marketing agreement covering only the counties of Nassau and Suffolk, but now some of the leading growers think a marketing pact may be practical if it also covers such competing areas as New Jersey, Connecticut, upstate New York, and Maine.—*Walter G. Been, County Agr'l Agt., Riverhead, L. I., N. Y.*

NEW HAMPSHIRE—Vegetable growers have started the year off with three bang-up meetings.

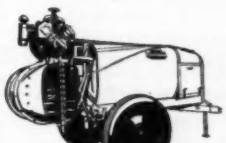
The first one was held in Reed's Ferry on February 3 with over 75 in attendance. Here Joe Hickey of the Burnham Morrill Canning Company, Portland, Maine, gave an illustrated talk on the use of weed killers. Dr. Albert Yeager, University of New Hampshire horticultural department head, talked on new vegetable varieties, while other University of New Hampshire specialists talked on insect and disease control. A highlight of the day was an irrigation panel made up of four young farmers.

(*Continued on next page*)

		Dilute Spraying	Concentrate Spraying
1	Acres covered in a day	50	100
2	Stops for water	16	13
3	Run-off	Some	None
4	Coverage	Fair-Adequate	Excellent



Myers Concentrate Field Crop Sprayer



Field Crop Concentrate Blower Attachment

Season after season, reports like Mr. Petry's are conclusively proving the superiority of concentrate spraying. Similar stories from other growers using Myers Concentrate sprayers tell of 50% savings in spray time and 60% water savings while getting 100% coverage.

Better crops in spite of damaging local disease conditions attest to the effectiveness of concentrate spraying. There's no run-off—plants get the full benefit of effective spray mixtures with low-water content.

Your Myers dealer will be glad to demonstrate the Myers Concentrate Sprayer.

MYERS POWER SPRAYERS

THE F. E. MYERS & BRO. CO.
3305 Orange Street
Ashland, Ohio

MYERS

Write today for the name of your nearest Myers sprayer dealer

Today's shoppers buy by eye

NEW WAX-SHINE

—a product of Johnson's Wax steps up eye appeal, protects quality

Improve the "eye-appeal" of your produce and sales increase automatically.

Vegetables that glow with garden-freshness in the store move into shopping baskets quickly . . . and shoppers come back another day for more. Wax-Shine creates that *just-picked* appearance that steps up sales of tomatoes, peppers, cucumbers and other fresh produce.

Wax-Shine is an odorless, tasteless wax product that adds effective sales appeal to your produce. Treated with Wax-Shine, your choice vegetables grade in the *fancy* class . . . and shoppers gladly pay a premium price. Wax-Shine also protects freshness during shipment, storage and display. It reduces shrinkage and increases store life. Thus, Wax-Shine offers many money-saving and profit-making advantages!

Packers, shippers, jobbers and retailers all benefit when Wax-Shine is used. It is easy and economical to apply and shines without buffing. For full information on Johnson's Wax-Shine, contact your Johnson distributor or write to:

A product of JOHNSON'S WAX Research

S. C. JOHNSON & SON, INC.

Agricultural Waxes, Dept. AVG-4

Racine, Wisconsin

CALENDAR OF COMING MEETINGS & EXHIBITS

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Do You PLANT BY THE MOON?

There's more than romance in the moon's influence. Weather and crops are affected by it too

By R. L. CAROLUS

Michigan State College

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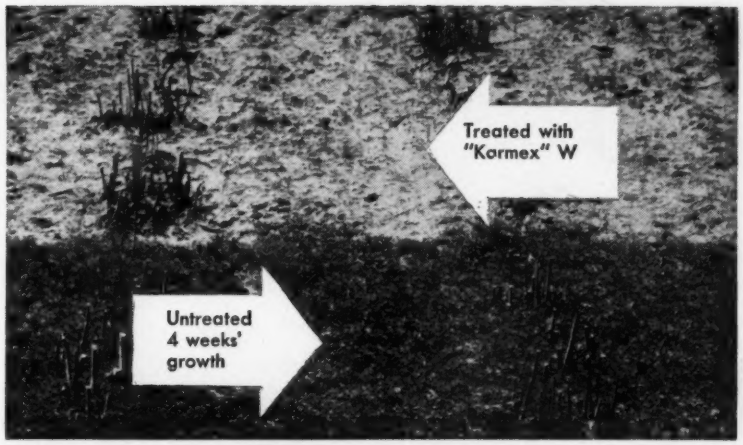

Du Pont Announces

Karmex® W

Herbicide

For low-cost control of weeds in asparagus

KARMEX® W a new substituted urea herbicide, provides growers new efficiency and economies in controlling weeds in established asparagus beds. Extremely low rates of application have proven highly effective in field trials conducted in all important asparagus-growing areas.

ECONOMICAL Low dosages, 1 to 4 pounds per acre, keep asparagus beds free of annual weeds and grasses for 6 weeks or more.

EASY TO USE A wettable powder, ready to mix with water. Apply as a pre-emergence blanket spray and again as soon as possible following completion of harvest.

OTHER FARM USES Use "Karmex" W at higher rates of application to kill weeds and grass around farmyards and building areas for a season or longer.

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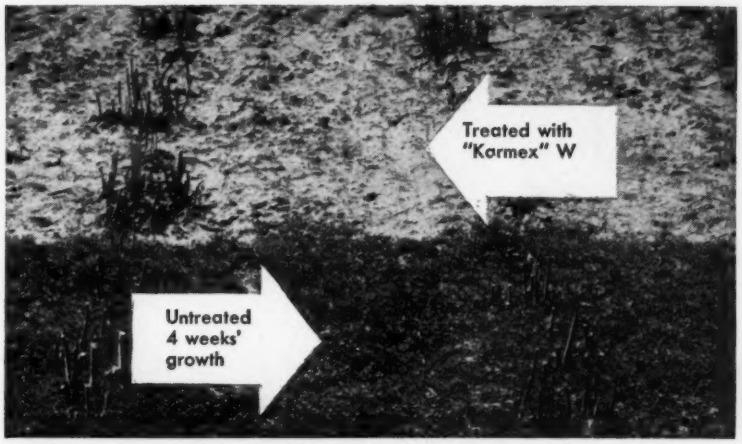

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DU PONT REG. U.S. PAT. OFF. **Karmex® W** *Herbicide*

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

IRON AGE

destroys these pests!

Worms, aphids, thrips, weevils, leaf hoppers, beetles—the IRON AGE Row Crop Sprayer controls them cheaply and completely! For bigger yields . . . for better crops . . . spray the Iron Age Way! Iron Age Sprayers give your crops thorough protection at less cost because the boom is easily handled . . . the pressure's right . . . upkeep is low. The famous Iron Age pump maintains the high pressures required and—like the sprayer itself—gives you trouble-free performance season after season. Tractor-drawn or tractor-mounted, Iron Age Sprayers come in sizes and capacities for every need. See your Oliver Iron Age dealer for the model you need! *Send for free high-pressure sprayer guide, "Row Crop Sprayer Selection Manual." Tells you how to select the correct sprayer for all acreage and crops.*

OLIVER

IRON AGE

Finest in Farm Machinery

MAIL TODAY FOR FREE INFORMATION

THE OLIVER CORPORATION, Dept. 42, 400 W. Madison St., Chicago 6, Illinois

☐ Please send me complete information on Iron Age Row Crop Sprayers.
☐ Please send me free guide, "Row Crop Sprayer Selection Manual."
☐ Please send me complete information on the Oliver Tractor line.

Name.....

Address.....

City.....RFD.....State.....

PLANT BY MOON?

(Continued from page 13)

quently tends to do, allows heat to be lost from the earth by radiation. Late spring and early fall frosts are therefore of more frequent occurrence, on any given date, when the moon is full.

Along the eastern seaboard many truck crop growers have found it prudent to delay their initial cultivation until after the full moon to avoid the possibility of frost damage to their emerging crops. Frequently both potato and snap bean plants have been frozen in cultivated areas of a field in which adjoining uncultivated rows escaped.

The cause for this could be easily explained by any heating engineer. At the time of the full moon, with a clear sky, heat is rapidly lost from the surface soil and adjacent air by radiation to the sub-zero upper atmosphere. If the soil is not cultivated, it is more compacted, a poorer insulator against heat loss from its lower depths, and its heat is more rapidly and continuously conducted to its surface. This heat then continuously replaces, in the neighborhood of the plant, the heat that is radiated to outer space. This maintains a temperature that prevents a frost from developing.

Irrigating Wards Off Frost

Either rolling or irrigating a dry, loose soil will aid in heat transfer to the surface, where it will be helpful in warding off light frosts on clear, still, moonlight nights. The irrigation water adds considerable additional heat to a soil. Water will hold about four times as much heat per unit as soil. Therefore, a wet soil not only will contain more heat than a dry one, but as water is a much better heat conductor than soil, it will transfer more heat to the surface than a dry soil.

By the same token, wet soils require more heat to warm them up in the early spring to a favorable temperature for satisfactory seed germination. In the fall wet soils are frequently subject to early frosts because they generally lie lower than surrounding areas and, in addition, they are generally quite dry on the surface and the dry humus material acts as an exceptionally good insulator to prevent the rapid conduction of heat from the subsurface soil.

In tests on four successive frosty midnights, the temperature of the air one inch above a wet soil averaged about 5° F. above that of a dry soil, and the temperature difference was maintained until after six the next morning. A half-inch layer of vermiculite, an insulating material, reduced the temperature of the air one inch above it by two degrees. During these tests the temperature one inch

below the surface soil did not fall below 42°, although the temperature one inch above the surface of the soil fell to 25°.

The ability of uncultivated or wet soils to give some protection to crops on frosty moonlight nights has been frequently observed. During a recent spring in central Michigan tender spring crops of beans, tomatoes, and cucumbers were frozen on dry, sandy knolls and slopes, while crops on adjacent, lower-lying, wetter areas escaped. This was contrary to the generally observed phenomena, that cold air drains into low areas and they freeze first. However, in this dry spring the soil in the lower areas contained just enough moisture to allow the heat to escape rapidly enough to protect the crops.

In transplanting tomatoes and other tender crops, certainly the possible hazard of a frost should be considered. If a full moon comes early in the month, it is safer to plant early than if it comes late. Irrigation or rolling the soil if it is dry, or the use of plant protectors should be considered if the full moon comes late and you must plant ahead of it.

The influence of the moon on rainfall is not as clear-cut as its influence on temperature. In general, weather data indicate that during the spring, changes in the weather generally follow a change in the moon. Drier times for fitting soil and planting are generally immediately preceding or during a full moon or just before a new moon. The tides may have something to do with the quantity of water that is evaporated into the air during a new or full moon and then precipitated.

Even though you may no longer be romantically inclined, it may be worthwhile to keep up with the changes in spring and fall moons. THE END

UNSTABLE SOIL

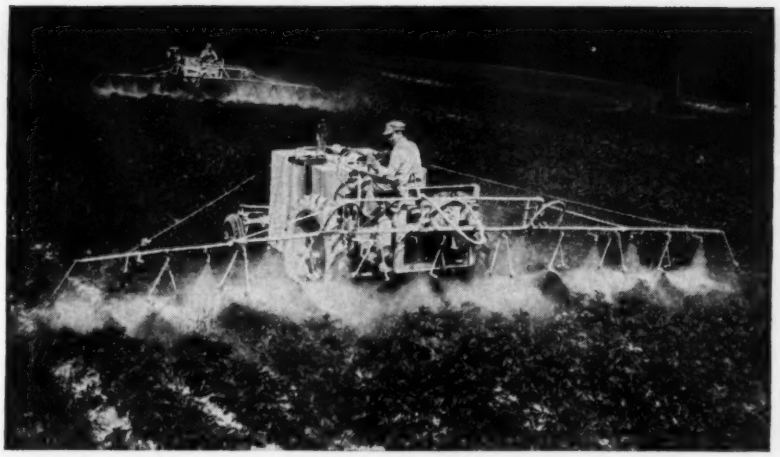
(Continued from page 9)

farming so that he can use a larger area of land and have less frequent use of row crops.

One or two years of row crop, one year of small grain, and two years of hay, together with the return of farm manure from such a rotation, will ordinarily not only maintain but actually improve soil structure.

What about the new magical soil conditioners? For the most part these compounds are still too expensive to be used for other than band applications over the row.

It costs no more to follow a system of good soil management than it does to follow a traditional hit or miss system of management. Improved management leads to a greater certainty of continued high yields. THE END



For high yields and low-cost blight control...

There's nothing better than Du Pont "Parzate" fungicide. Potato and vegetable yields go up when you control blights and other diseases with "Parzate." It's a mild, effective chemical that does the job without stunting or burning . . . gives your crops vigorous growth and increased yields!

Use "Parzate" for potatoes, onions, tomatoes, celery, spinach, melons, cucumbers, beans, peppers, sweet corn and other vegetables. There's "Parzate" liquid for quick-mixing sprays, or "Parzate" dry for sprays or dust mixtures.

* * *

For many special insect-control problems use the performance-tested insecticide

"Marlate" methoxychlor does the job effectively and safely. You get both contact and residual control. Its low toxicity to humans permits use within 7 days of harvest.

On cucumbers, squash, melons, "Marlate" controls both striped and spotted cucumber beetles, squash vine borer and pickleworm without injuring these sensitive plants.

It is excellent for Mexican bean beetle and leafhoppers or snap and lima beans. On DDT-resistant Colorado potato beetles, leafhoppers and flea beetles, "Marlate" has given outstanding control.

On many other crops, "Marlate" controls such insects as asparagus beetles, cabbage worms, blister beetles, flea beetles.

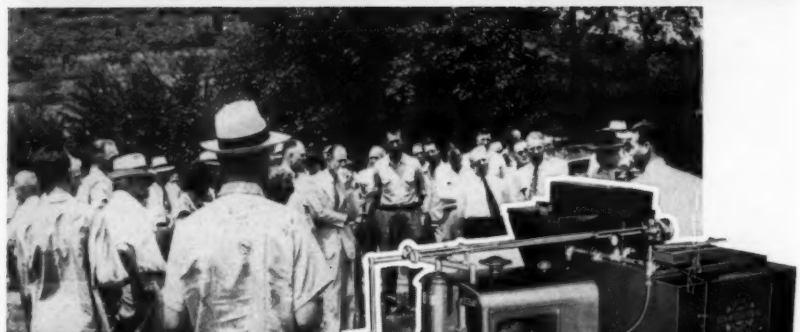
DU PONT
REG. U.S. PAT. OFF.

On all chemicals always follow directions for application. Where warning or caution statements on use of the product are given, read them carefully.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

PUBLIC ACCEPTS BUFFALO TURBINE

As Modern Equipment for Concentrate Spraying and Dusting



Summer and winter meetings of the horticultural societies have stressed the advantages of concentrate spraying. The Buffalo Turbine Agricultural Equipment Company, who is the pioneer in concentrate and air blast spraying, has spent nine years in perfecting their sprayer-duster. The Buffalo Turbine is truly an all-purpose unit. It will distribute dust or liquid insecticides and fungicides and will apply both at the same time or separately. It will give you more rapid coverage with less material. The axial-flow blower sets up an air turbulence which atomizes spray or dust, giving greater penetration.

YOU CAN SAVE MONEY WITH A BUFFALO TURBINE

- **You save on initial cost**
- **You save on material**
- **You save on labor**
- **You save on motive power, for a small tractor will handle the Buffalo Turbine**

A South Carolina tobacco grower reports that he replaced 19 conventional sprayers and dusters with one Buffalo Turbine treating over 1000 acres and harvested an almost 100% insect- and fungus-free crop. (Name upon request.) There is a Buffalo Turbine that fits your needs. Fill out the coupon and let us send you additional facts about this modern applicator.

Prices start at less than $1000.00
Available in following models:

- Jeep power take off
- Skid mounted for trucks
- Trailer mounted
- Three point hydraulic pick up model

BUFFALO TURBINE
AGRICULTURAL EQUIPMENT COMPANY, INC.
GOWANDA, NEW YORK

Cut on dotted line and paste on postcard or mail in envelope

Gentlemen—Please send me full information on the Buffalo Turbine Sprayer-Duster.

I have approximately _____ acres in vegetables consisting mostly of _____

_____

Signed _____

_____

_____

Please arrange a demonstration.

DIVERTED ACRES

They pose a serious threat to vegetable and potato growers

By JOHN C. DATT

American Farm Bureau Federation

WHAT are diverted acres, where will they go, and what solution is there to the problem? These are questions being asked by vegetable and potato growers across the nation.

First, diverted acres are those acres which will be shifted or diverted in 1954 from wheat, cotton, and corn production as a result of the acreage allotment and marketing quota programs. These are all so-called "basic commodities" receiving price support at 90 per cent of parity.

Under the 1954 wheat allotment and quota program, farmers have been asked to cut wheat from 78.7 million acres seeded for the 1953 crop to 62 million acres. Under the cotton allotment and quota program, cotton acreage will be cut from 25.3 million acres in cultivation July 1, 1953, to 21.4 million in 1954. Under the corn allotment program, 56.8 million planted acres in the commercial corn area will be reduced to 47 million.

The land farmers will take out of these three major crops 16.7 million acres of wheat, 3.9 million of cotton, and 9.8 million of corn, or a total of 30.4 million acres.

In 1953 about six million acres were planted to fresh and processing vegetables and potatoes.

1953 Planted Acres

Fresh Vegetables	2,231,020
Processed Vegetables	1,799,330
White Potatoes	1,532,100
Sweet Potatoes	356,100
Total	5,918,550

The relationship between this acreage and the 30 million acres to be diverted indicates the threat to the vegetable and potato industry.

If 20 per cent of the 30 million acres were diverted to vegetables and potatoes this would be six million acres or the acreage planted to vegetables in 1953. While this is very unlikely, here are some possibilities:

10% acreage diverted equals	3,000,000 acres
5% acreage diverted equals	1,500,000 acres
3% acreage diverted equals	900,000 acres
1% acreage diverted equals	300,000 acres

In view of the low prices received in 1953 for potatoes, onions, and many vegetables, any acreage increase, even one per cent, could cause lower returns in 1953.

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tive market

The answer to the question of "where will the diverted acres go" is one that will probably depend on the alternatives on each individual farm. Some of these diverted acres may be used for pasture and hay which will result in an expansion of dairy, livestock, and poultry production. The wheat land may be shifted to such crops as oats, barley, rye, or grain sorghums, crops which have similar requirements for land, labor, and equipment.

Reduced cotton acreage in such areas as California, Texas, and the South could be shifted to fresh and processing vegetables and potatoes. This is where there is the most possibility for increased vegetable acreage. Other possible crops are flax, barley, and various types of seed crops. Many of the crops that can be grown on land taken out of corn are feed grains or roughage which can be substituted for corn. Other crops, such as soybeans, provide an attractive alternative. Some of the corn land could be easily shifted to processing vegetable and potato production.

Difficult Problem to Solve

The solution to the "diverted acres" problems is not an easy one. It appears unlikely that anything can be done to help the situation in 1954.

The American Farm Bureau Federation's 1954 policy on diverted acres is as follows:

> "The Secretary of Agriculture should be required to establish on an appropriate geographical basis, lists of crops which may not be produced for direct or indirect sale, or may be so produced to a limited extent, on acres diverted from any crop receiving price support when conditions are such that limitations on the use of diverted acres are necessary to prevent the production of excessive supplies."

Similar positions providing for restrictions on the use of diverted acres have been adopted by several of the agricultural groups, such as the Vegetable Growers Association of America. New legislation will be needed to carry out these recommendations. In order to have a program to deal with the question of diverted acres in 1955, action must be taken this spring.

While restrictions of the use of diverted acres will provide some protection for vegetable and potato growers, a better solution is to correct the conditions causing the "diverted acre" problem. This can be done by the expansion of markets on a sound basis and the revision of the farm program to encourage the adjustment needed to bring about a better balance between farm production and effective market demand. THE END

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" 'Manzate' held a bad attack of early blight in check. We harvested 20 tons per acre of fine-quality tomatoes". . . John H. Gibble, Meyerstown, Pa.

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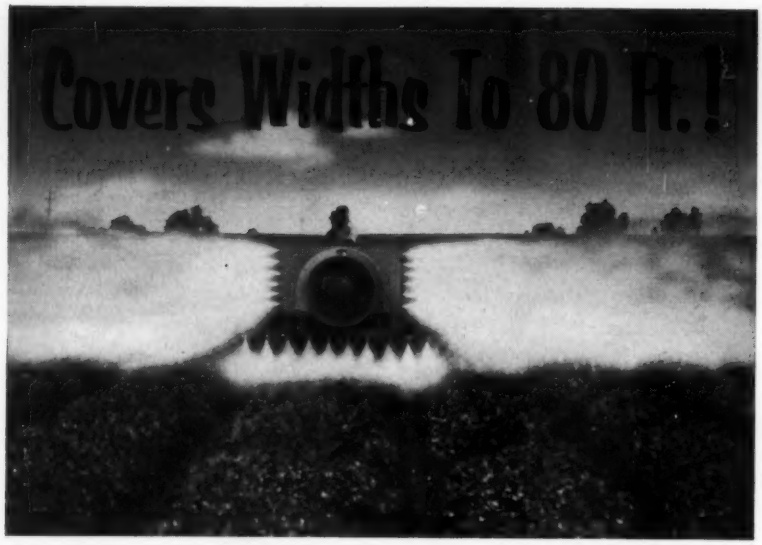

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Have You Tried CO-OP MARKETING?

Experiences of Texas growers prove it pays to work together

By A. B. KENNERLY

A GROUP of agricultural men were discussing vegetables as a source of income from diverted cotton acreage. Spoke up one of the men from the Lower Rio Grande Valley; "Tell those growers we'll sell them vegetables cheaper than they can grow the crops themselves. If they have a market, they can make more money buying from us and re-selling."

Marketing vegetables for the next few years appears to be a major problem as more farmers are turning to them for pushing up the cash income from diverted acres.

"Last season some plum growers of Smith County, Texas, were in a precarious situation," says J. F. Rosborough, horticultural marketing specialist for the Texas Agricultural Extension Service. "They had a big crop on their hands with no place to market it at a satisfactory price.

They didn't have a lot of time to waste so they appealed to Leon Miller, manager of the Co-operative Rose Growers of Tyler. Through the facilities of the rose growers the plum men were able to send their plums to market, and the arrangements have proved satisfactory to both groups."

Co-op Co-operates

But even before the plum growers started dealing with the rose co-operative, berry growers had found themselves in a similar plight and had made an appeal to the rose growers for help. As a result, the blackberry growers pay for two months' operations of the co-operative plant and the plum growers will pay for one month's operations. None of the three harvesting periods conflict, and the rose growers are able to lower their cost of overhead.

"It may prove profitable to other groups of small growers to make arrangements with existing co-operatives or marketing associations to handle the sale of their products," Rosborough points out.

While Leon Miller serves as manager for all three co-operatives, each has its own board of five directors. Miller believes it is highly important that the men on the board be the best businessmen that can be found among the growers.

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Durwood Speights (left), foreman for Co-operative Rose Growers, Tyler, Texas, and J. F. Rosborough, Texas extension service marketing specialist, agree that quality is important whether the product to be marketed is rose bushes or plums or strawberries.

"If growers cannot find a suitable co-operative already in existence that will market their produce, it may be the best plan to organize their own marketing association along lines followed by a group of vegetable growers in Van Zandt County, Texas," Rosborough advises.

There are about 130 of these growers who are members of the Van Zandt County Vegetable Growers Association with headquarters at Grand Saline. These growers plant about 250 acres to turnips, 250 acres to sweet corn, 175 acres to cabbage, and a similar acreage to tomatoes. Other crops include green onions and bunch mustard.

Production Must Be Organized

Bill Hawkins, manager of the plant, has some sound advice for vegetable growers who contemplate forming a marketing association. "You can't let the members plant just anything they want to and then expect to sell it," he warns. "On the other hand, you can't expect to sell vegetables if you don't have them in quantity. It's best to select a few vegetables that you can grow best and grow and sell these year after year, establishing a better market as you grow."

Leon Miller of the Co-operative Rose Growers gives some good advice on selecting a manager. "Get as good a manager as can be found and place him under a large bond that will adequately cover all contingencies," he recommends. "Pay him a livable salary plus a percentage of net (not gross) proceeds. This arrangement will discourage price cutting to move the produce."

"A final caution," says Rosborough. "Be sure you've got enough volume to do business. It takes a lot of volume to supply a steady demand from buyers."

THE END

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SPRAY FERTILIZE

(Continued from page 7)

trol, and to add four pounds magnesium sulfate and two pounds borax per 100 gallons to sprays made when the crown-set fruits begin to turn color, and again during the third week of harvest. For an additional boost on the later harvests, a third application might be made about three weeks after the second application of nutrients.

Nutrient sprays should not be promoted as a panacea. Favorable responses might be expected where the

Table 1. Effect of nutrient sprays on percentage of soluble solids in cantaloupes.

	1949	1950	1951	Average
Zineb only (check)	8.77	8.17	6.54	7.83
Zineb plus magnesium sulfate plus borax	10.09	8.33	7.09	8.50

Table 2. Effect of nutrient sprays of magnesium sulfate and borax on tomatoes (four-year average).

Yield Per Acre	Zineb Only	Zineb plus magnesium sulfate plus borax
U.S. No. 1 grade	7.07	8.59
U.S. No. 2 grade	4.14	4.13
Total marketable yield	11.21	12.72
Gross Value Per Acre		
U.S. No. 1 (@ $36) ..	$254.52	$309.24
U.S. No. 2 (@ $22) ..	91.08	90.86
Total	$345.60	$400.10
Less cost of nutrient materials		.48
	$345.60	$399.62
Gross profit per acre from two nutrient spray applications		$ 54.02

(Deduct cost of containers, picking, and haulage for net profit. Cost of application of nutrient sprays is calculated to be a cost of disease control.)

material is not being supplied from the soil. Where magnesium and boron levels in the soil are at satisfactory levels and the climatic factors do not prevent the uptake of these materials, it may be assumed that the responses found in these studies would not develop. In other sections of the country, other materials might be considerably more important than magnesium and boron.

The use of complete mixtures of soluble fertilizer materials for foliar feeding has been widely promoted and in fact does have the advantage usually of containing all of the nutrients necessary for growth. One disadvantage of these mixes, however, is that the individual minerals necessarily must be lower in concentration than those applied in the studies reported here. Observations lead us to believe that when growth is subnormal due to excessive drought, very marked increases may be measured from spraying with complete mixes. THE END

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Willoughby, Ohio

Cabbage plants grown in clubroot infested soil treated with hydrated lime—mercurous chloride.

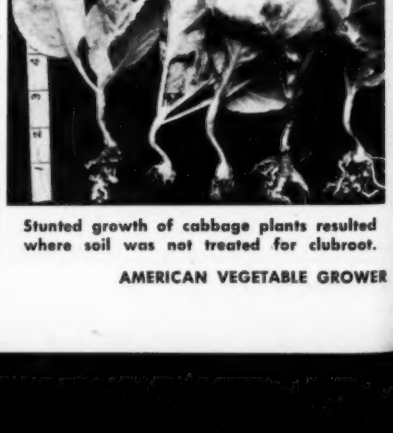
a Way to COMBAT CLUBROOT

New soil treatment improves the growth of cabbage plants

CLUBROOT, a serious disease of cabbage, broccoli, cauliflower, Brussels sprouts, and other members of their plant family, is caused by a soil fungus. Long rotations may help in controlling the disease, and so may liming. But liming alone may give disappointing results.

Clubroot control investigations have been conducted in Massachusetts using the fungicide calomel or mercurous chloride mixed with a commercial fertilizer, the latter serving as a carrier. This calomel-fertilizer mixture was applied to clubroot-infested soil before sowing cabbage seeds. Untreated soils received only fertilizer.

In the investigation clubroot was not often well controlled by lime or by calomel when either was applied alone, without the other, to the soil. The disease was well controlled by calomel, about 30 pounds per acre, and hydrated lime or ground limestone when both were applied to the soil, the limestone



Stunted growth of cabbage plants resulted where soil was not treated for clubroot.

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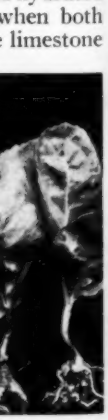

nts resulted
or clubroot.

BLE GROWER

at the rate of at least three tons per acre, the hydrated lime in a lesser amount.

Soil moisture is a factor affecting the severity of clubroot or the control of the disease. Lime and the mercurial used together usually gave good control of clubroot in a soil 50 per cent saturated, with control less good in a soil 80 per cent saturated.

Clubroot was also more readily controlled by calomel and lime in more sandy soils than in less sandy soils. This treatment of soil infested with the clubroot fungus usually improved the growth of cabbage plants in both types of soil, with most improvement in growth in sandier soils.

Clubroot was well controlled by ground limestone and calomel in soils having initial pH values of from 5.3 to 7.0. There was, however, least clubroot in soils with the highest pH value. But in a fine sandy loam with an initial pH value of 5.3, 95 per cent of the plants became infected with clubroot in untreated soil and only 2.4 per cent were infected in soil treated with lime and calomel.—*William L. Doran, University of Massachusetts.*

Bulletin 455, available on request from the Massachusetts Agricultural Experiment Station, Amherst, contains details of clubroot control investigations.

NEWS FROM YOUR SUPPLIERS

FOR a four-page two color booklet about Manzate for the control of vegetable diseases write George Soule, Public Relations Department, **E. I. du Pont de Nemours & Company,** Wilmington 98, Del. The booklet tells of the experience of growers with Manzate fungicide in controlling tomato diseases. Recommendations are also made for use on potatoes, carrots, celery, and onions.

If you want information on the new Rocket-Jet agricultural sprinklers, write for the new catalog from John Gill, **Buckner Manufacturing Company, Inc.,** P. O. Box 232, Fresno 8, Calif. Included in the catalog is an abbreviated performance table together with cutaway designs of the new type sprinklers.

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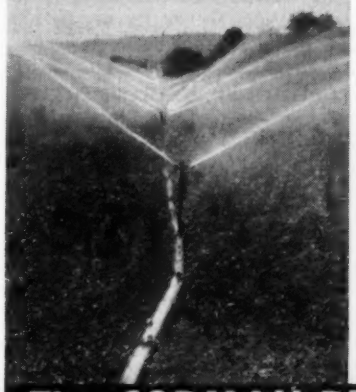

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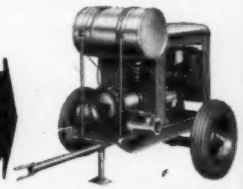

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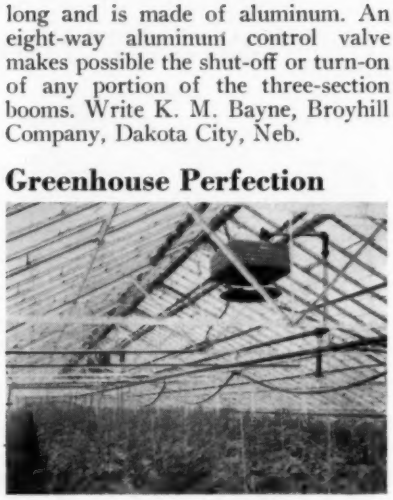
The other day a grower told us about a new sprinkler which is built to perform under the most severe irrigating conditions and to last a long time. This new sprinkler, made by Skinner irrigation Company, is known by Model No. S-750. It delivers water at a uniform and slow rate. The two-nozzel sprinkler insures the grower proper coverage and because of the construction of the nozzels the unit can be used effectively under trees or in high wind conditions. Speed of rotation is easily controlled and can be adjusted to suit your particular needs. The S-750 is constructed with a special grit guard bearing which makes it impervious to sand or other gritty substances. Why not write A. R. J. Friedmann, Skinner Irrigation Company, 701 Water St., Troy, Ohio?

Boom Sprayer

If you are looking for a sprayer to apply liquid nitrogen and to use for weed and insect control, you should investigate the new Broyhill sprayer. The sprayer is driven from the power take-off and develops 300 pounds pressure. Other units are available with engine-mounted pumps. The sprayer's aluminum tank has a capacity of 220 gallons and all fittings on the sprayer are rust resistant. The boom is 21 feet long and is made of aluminum. An eight-way aluminum control valve makes possible the shut-off or turn-on of any portion of the three-section booms. Write K. M. Bayne, Broyhill Company, Dakota City, Neb.

Greenhouse Perfection



Why are so many greenhouse vegetable growers using unit heaters? Unit heaters provide air circulation which discourages fungus growth and eliminates pipe coil rusting. Grower Hazeleger, Kalamazoo, Mich., installed six Modine unit heaters for his tomatoes and found that the heaters accomplished four purposes—healthier plants, more even temperature, lower fuel costs, and easier installation. Write Modine Manufacturing Company, Dept. G., 1578 DeKoven Ave., Racine, Wis.

Power House

One of the big changes taking place in the vegetable industry is the introduction of new four-wheeled small tractors. We saw the Garden-All JR perform the other day, and this little power house can do all of the work needed in a small commercial vegetable operation easily and efficiently. It has three speeds forward and one reverse. Robert L. Jones, Garden-All Tractor, Inc., Liberty, Ind., will be glad to send you all the facts.

Proven

The Jari power scythe has proven itself as a necessary tool for the vegetable grower. The machine is inexpensive and performs a host of jobs around the farm. It is strongly built and operates easily and efficiently. Light in construction yet rugged, the Jari is powered with a one and one-half h.p. gasoline engine. Write Alan Paulson, Jari Products Co., 2938 Pillsbury Ave., Minneapolis 8, Minn. The Jari has many attachments which will make other jobs easier, too.

Bigger Yields—Easier

Getting rid of potato vines so that the crop can mature and be easily picked has long been a hard problem confronting commercial potato growers. Today we have the answer to this problem—a new, tested vine puller which has done a remarkable job under actual field conditions. The machine is equipped with a gasoline motor or can be driven from your power take-off. Pick-up points reach under the vines and are guided between two power-driven rollers. Write Jim Parks, Lockwood Grader Corp., P. O. Box 177, Gering, Neb.

OPPORTUNITY ADS

Only 25c a word for one-time insertion; 20c a word for two-time insertion; 15c a word for four-time insertion—CASH WITH ORDER. Count each initial and whole number as one word. ADDRESS AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

FOR SALE

HARDIE SPRAYER—LIKE NEW—35 G.P.M., 500 gal. wood tank trailer type, engine driven, all overhauled and painted. PACKER'S ORCHARD, Adena, Ohio.

WRITE FOR DESCRIPTIVE LIST OF USED power sprayers, potato and orchard equipment. THE HOLLANDIA GARDENS, S. Vienna, Ohio.

FOR SALE 190 FOOT FOUR INCH POMANA pump number H-2116 made in Pomana, Cal. E. M. WILSON, 602 3rd Ave., Sterling, Ill.

MUSHROOM COMPOST TURNING MACHINE, 3 H.P. motor. Fifteen ton York ammonia ice machine complete with condenser, 15 H.P. motor, valves and equipment. Two row self propelled Holland transplanter. F. LUCE & SON, Perryville Place—P. O. Box 238, Ashtabula, Ohio.

1951 8-ROLL BRUNNER HARVESTER COMbine with carrot and onion attachments. Wisconsin 22 H.P. engine. Machine like new. Cost $2350.00. Have discontinued growing above vegetables, will sacrifice $800.00. EVERGREEN VEGETABLE GARDENS, Route 3, Circleville, Ohio.

EXPANDING FARM MARKET ON U.S. 12 four miles from Ann Arbor. Excellent storage, parking. Two-family brick Colonial home, seventy acres garden soil available. Irrigation stream. HONEYBROOK FARM, 6400 Jackson Road, Ann Arbor, Michigan.

HELP WANTED

ORCHARD AND FARM MANAGER. MUST have practical experience in pruning, spraying, fertilizing, cultivation and harvesting of large fruit crop for processing. Manager expected to participate in actual work as well as supervise. Permanent position for qualified man. Location Central States area. Salary commensurate with experience and ability. Give complete personal history, experience, references and salary expected in application. BOX 101 AMERICAN VEGETABLE GROWER.

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MISCELLANEOUS

"BEESTROY" GETS RID OF WILD HONEY bees in dwelling houses. 1 colony size $2.00 or 3 for $5.00 postpaid. VALLEY APIARIES, Prophetstown, Ill.

VEGETABLE PLANTS

SWEET POTATO PLANTS, DELICIOUS IMproved portoricos. Postpaid, 200—$1.25; 500—$2.25; 1000—$4.00; 2000—$7.50. SMITH PLANT FARMS, Gleason, Tenn.

SWEET POTATO PLANTS, 1000 OR 100,000. ROBERT SIMMONS, Sharon, Tenn.

SWEET POTATO PLANTS, PORTO RICAN, Nancy Hall and Yellow Yam varieties. Our seed is treated for the prevention of disease. 200—90¢; 300—$1.20; 500—$1.75; 1000—$3.00. Millions now ready. We guarantee prompt shipment. FARMERS PLANT CO., Gleason, Tenn.

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Consumer Education

THE overwhelming majority of our people depend upon food markets for their daily household supplies. No longer do they even grow a small portion of the fresh vegetables for their tables. In fact, a whole generation has now pretty well matured without having had any intimate contact with the art of plant growing. Countless numbers of families in our large cities have never had the privilege of a garden. These people know little about good vegetables and how to use them.

This is basically the reason why "consumer education" has become so important to the successful selling of our large crops of vegetables. There is also keen competition for the consumer's dollar. Whoever can show the best cause for Mrs. Consumer to buy his product is the one who sells his product. That is what our consumer education programs do. They show the consumer just why she should buy potatoes or onions or lettuce or tomatoes, or even certain other varieties of a vegetable.

The purpose of the program is to educate the consumer as to variety or type of vegetable that is most suited to her needs. It explains to her why she should buy "vegetables"—their importance to her family's health. She doesn't know that one variety of potato, for instance, is tops for baking but may not be worth two cents for chips. She has to be educated on such matters. When she is satisfied with the product she buys, then she is a good potential customer for more, eating away at any surplus pile that may exist.

Isn't the job of selling our vegetable crops pretty much that of helping the consumer to become a satisfied customer? As vegetable growers, we have a real stake in consumer education. There is a lot to think about in this field, and a lot that still needs to be done.

Entomologists Celebrate 100th Birthday

THIS year professional entomologists all over the country are commemorating the 100th birthday of their profession. On May 4, 1854, Dr. Asa Fitch was named entomologist for New York state at a $1,000 a year salary, and on June 14, Townsend Glover was appointed entomologist in the U. S. Patent Office of the Federal government. Today there are 4,500 professional entomologists banded together in their professional organization, the Entomological Society of America.

Progress made by entomologists in controlling insects has served vegetable farmers well. It is frightening to think of what could happen today with specialization and concentration of plants in specific areas if our knowledge of how to fight insects had not grown as our agriculture grew. To the entomologists go well deserved thanks and tribute for being the unsung heroes of the never ending war against insects.

Some notable victories scored against vegetable pests include the Colorado potato beetle, which once ruined potato crops in large areas of the U. S. The Colorado potato beetle was damaging plants in Nebraska in 1859. In 1864 it had moved to Illinois and by 1874 it had reached the Atlantic Coast, travelling 1,500 miles in 15 years. Arsenical dusts saved the potato crop from this pest more than 80 years ago, and since 1946 DDT has given quick, effective control.

However, reports now indicate that the beetle is becoming resistant to DDT. For instance, it is expected that DDT will not control Colorado potato beetles in much of the North Dakota potato growing areas in 1954. Fortunately, entomologists have another trick up their sleeves in the form of toxaphene and methoxychlor which do as good a job in DDT's place.

Another entomological victory is the battle of the tomato fruitworm which no longer takes a 13 per cent bite of the tomato crop as it did in the early 1930's. In southern California alone growers are saving $2 million a year by controlling it.

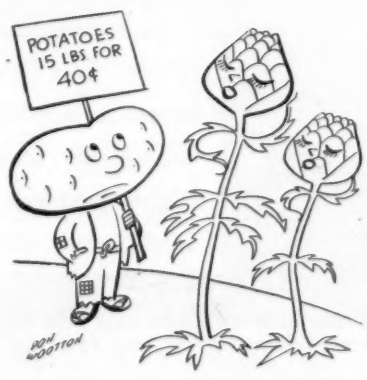
Victories have been notable, but despite the best efforts of entomologists damage from insects in vegetables goes on unabated. Given half a chance insects will multiply by the millions overnight and clean a field of its crops. In 1937, the pea crop yield on 50,000 acres in Wisconsin was cut in half by the pea aphid with as many as two million of the pests found per acre.

To make the problem more difficult many foreign insects have worked their way into our vegetable fields by devious ways and means. A majority of the most destructive insects of North America are aliens. Fortunately the passage of the Plant Quarantine Act of 1912 stopped the free and unimpeded passage of insects into this country by setting up inspection stations at ports of entry.

The list of vegetable insects not native to the U. S. is long including asparagus beetle, onion thrips, cabbage worm, beet webworm, pea aphid, spinach leaf miner, pea moth, and cabbage curculio.

As long as we grow crops we will have insects to plague us. The next time you start up your sprayer or duster with assurance that insect pests of the particular crop you are growing can be held in check, remember the entomologist and his expert guidance.

VEGETABLE CONVENTION



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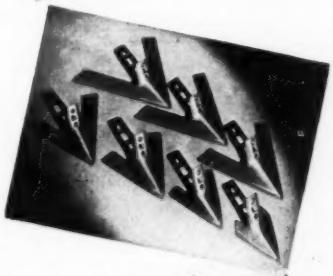
- We Must Irrigate Scientifically
- Keep Up-To-Date on Irrigation Equipment
- Irrigating Potatoes
- How to Choose an Irrigation System
- Factors Influencing Irrigation Requirements



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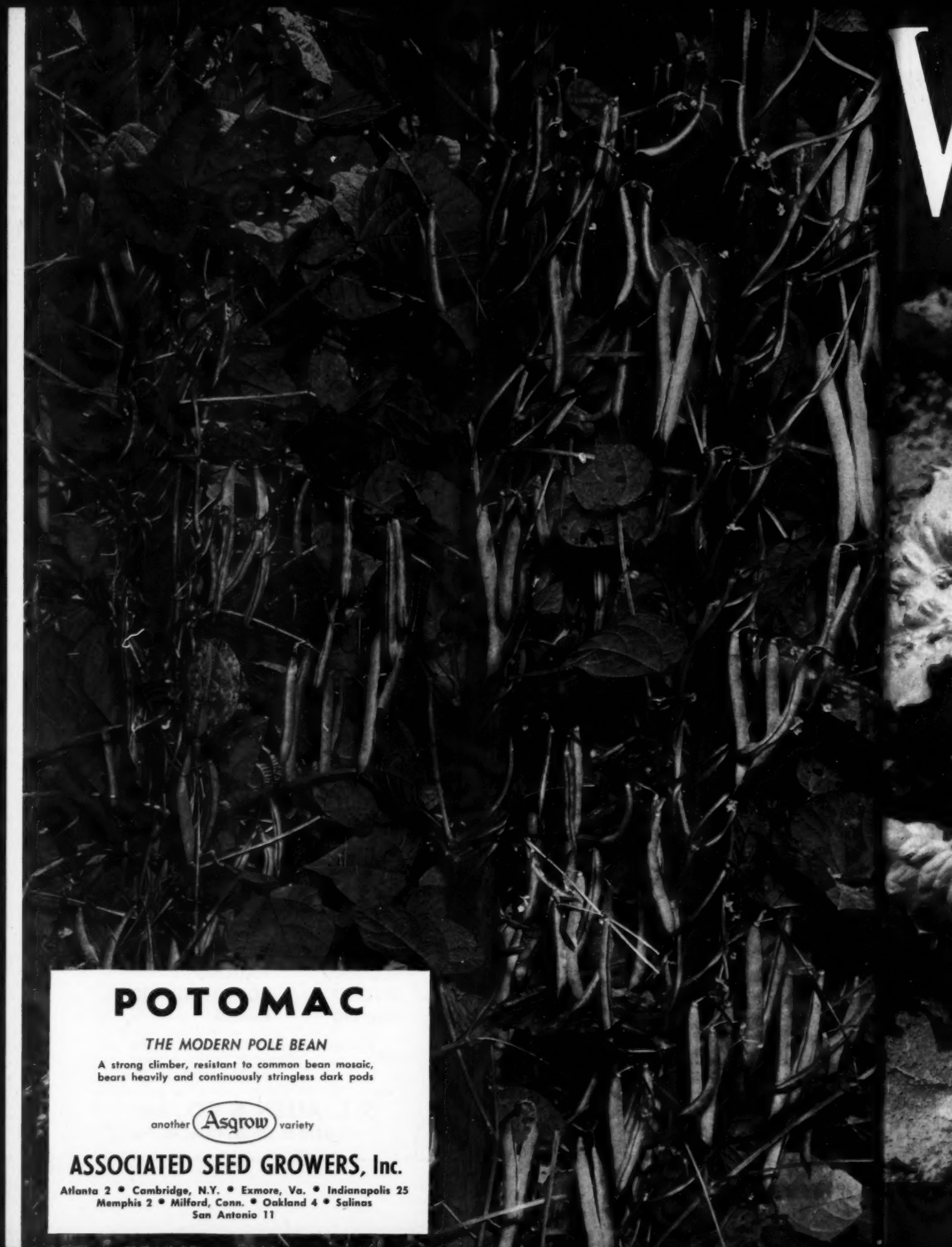

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